CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

WASTE DISCHARGE REQUIREMENTS
ORDER NO. 98-074

WEST MARIN SANITARY LANDFILL INC., HAZEL MARTINELLI, LEROY MARTINELLI, PATRICIA MARTINELLI, AND STANLEY MARTINELLI

CLASS III SOLID WASTE DISPOSAL SITE
POINT REYES STATION, MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board), finds that:

1. West Marin Sanitary Landfill Inc. leases and operates West Marin Sanitary Landfill (WMSL), a Class III municipal refuse disposal site located in Point Reyes Station, Marin County.

2. WMSL is located on a 1059-acre ranch (referred to as the Martinelli "back ranch"). The original owners of record for the back ranch were Elmer and Hazel Martinelli. In 1965, Elmer Martinelli obtained a use permit from the County of Marin to operate a refuse dump on 25 acres of the back ranch. From 1965 to 1986, Elmer Martinelli and members of his family operated the landfill as individuals. In 1986, West Marin Sanitary Landfill, Inc. was formed with the Martinelli family as the sole shareholders. Since that time, the corporation has operated the landfill. Upon the death of Elmer Martinelli in 1987, ownership of the back ranch, including the landfill, changed to Hazel, Leroy, Patricia, and Stanley Martinelli. In 1992, three new shareholders bought minority interest, totaling 49%, in West Marin Sanitary Landfill (North Bay Corporation, Sonoma Marin Waste Management, Inc. and James A. Wyse, Inc). Of these three shareholders, only James A. Wyse, Inc. still retains a shareholder interest. In 1994, the Martinelli family leased the entire back ranch to West Marin Sanitary Landfill Inc. In turn, West Marin Sanitary Landfill, Inc. sublet the entire back ranch, less the 25 acres landfill site, to the Martinelli family for agricultural purposes. West Marin Sanitary Landfill Inc. and Hazel, Leroy, Patricia, and Stanley Martinelli are hereinafter the dischargers.

3. The purpose of this order is to update Waste Discharge Requirements for the upcoming closure of the landfill and specify closure and post-closure requirements. This includes establishing a time line for discontinuing waste disposal, construction of the landfill final cover, expansion of the leachate extraction system, and post-closure monitoring and maintenance.

SITE DESCRIPTION

4. WMSL is located in the western portion of Marin County 1.5 miles north of the town of Point Reyes Station and 1/4 mile east of Highway 1. WMSL is an unlined landfill located in a side canyon of Tomasini Canyon. Waste has been placed to a height of approximately 150 feet above the valley floor and within 400 feet laterally of Tomasini Creek. Order No. 96-129 estimated approximately 11.35 acres of the area had received refuse fill. Recent data from a newer, more detailed survey indicate that the area is actually larger, approximately 14.7 acres (EFW, 1997B).

5. Regulatory History: Following is a chronology of key dates and Board regulatory actions regarding WMSL.

- Waste disposal begins at WMSL in 1965.
- Order No. 77-140, adopted in 1977, prescribed first Waste Discharge Requirements for WMSL.
- Order No. 79-005, Cleanup and Abatement Order, issued March 30, 1979, and rescinded April 9, 1985. Required leachate collection and prevention of groundwater and surface water from percolating through or into waste.
- Order No. 85-79, Waste Discharge Requirements issued June 19, 1985, updating the initial order to meet the requirements of Title 27.
- Order No. 86-005, Cleanup and Abatement Order adopted in 1986, required repair of erosion damaged leachate pond. Order rescinded June 30, 1991and a new CAO was issued.
- Order No. 91-105, Cleanup and Abatement Order issued June 30, 1991, and rescinded on August 19, 1993 after compliance was achieved.
- Order No. 93-113, General Amendment of Waste Discharge Requirements for All Municipal Solid Waste Landfills in Region 2. Issued September 15, 1993. Updated the groundwater monitoring and waste containment system requirements for WMSL operations consistent with the new federal Subtitle D landfill regulations.
- October 1995, Board Meeting, Information Item," Staff Report: Evaluation and Recommendations, West Marin Sanitary Landfill, Point Reyes Station, Main County."
- November 28, 1995, Board Staff holds Public Meeting in Point Reyes Station to present findings and answer questions regarding the above Staff Report.
- Order No. 96-096, issued Administrative Civil Liability for submittal of late technical reports. Total fine amount was $58,300, of which $53,000 was suspended provided that the late reports were submitted by April 1997. The late reports were subsequently submitted on time.
- Order No 96-129, issued September 18, 1996, updated Waste Discharge Requirements for operation, implementation of corrective actions and ultimate closure of the landfill.

WASTES AND THEIR CLASSIFICATION

6. WMSL historically received approximately 150 to 200 tons per week (an estimated 9000 tons per year), consisting of 60% residential, 39% commercial and 1% industrial. As of January 1, 1998, approximately 507,000 cubic yards were received. The dischargers are permitted to dispose of municipal solid wastes, construction waste and demolition waste and green waste. This Order prohibits disposal of all waste except construction and demolition waste after September 1, 1998. Disposal of construction and demolition waste shall only be permitted if the landfill demonstrates adequate capacity (See Task 1).

7. Historically, leachate was collected from the landfill, conveyed via pipeline across Tomasini Creek and discharged to clay lined ponds. Leachate was then disposed of via a spray irrigation system onto the hillslopes above leachate ponds that were located on the west side of Tomasini Creek. Leachate spraying was discontinued in 1990 and Leachate Ponds #1 and #2 were decommissioned in 1991 and 1995 respectively.

8. Leachate is currently collected into a two million gallon Class II impoundment constructed in 1994. Disposal is by a spray evaporation within the footprint of the pond and by hauling the leachate off site to a wastewater treatment plant in San Rafael.

CLOSURE

9. The dischargers submitted a Final Closure Plan dated October 1997 (EFW, 1997B) for review by the Regional Board, the California Integrated Waste Management Board and the Marin County Environmental Health Department. The Final Closure Plan provides for final grading, construction of the final cover, stormwater runoff controls, expansion of the leachate extraction system, disposing of the leachate using spray irrigation, cost estimates, and post closure monitoring and maintenance. While the Closure Plan addresses most of the necessary elements for closing the landfill, several issues have not been adequately addressed in sufficient detail. These outstanding issues include identification of sufficient soil for capping, design details for the transition between the earthen berm and landfill waste, and submittal of a construction quality assurance plan. In a December 17, 1998 letter, Board staff required submittal of a revised Closure Plan by February 6, 1998, to address these outstanding issues. As of June 10, 1998, the landfill had not submitted such a revised Closure Plan. These delays are resulting in an associated delay in capping the landfill.

10. The Board is establishing a timeline in this Order for closing and capping the landfill. If WMSL continues to fail to meet deadlines for closing and capping the landfill, the Board may seek to impose penalties as appropriate under the Water Code.

11. Individual elements of the closure plan for WMSL are summarized below:

Final Grading: The final grade of the refuse will be constructed with a perimeter slope of 2.5:1 (horizontal to vertical). Intermediate benches (15 feet wide) will be constructed at vertical intervals of no more than 50 feet. The maximum elevation of the landfill will be approximately 350 feet above mean sea level and the maximum refuse height will be approximately 150 feet above the canyon floor. To increase the overall slope stability of the landfill, an engineered toe-berm will be constructed along the northwestern perimeter of the landfill. The height of the berm will vary from a few feet to a maximum of 30 feet above grade. The permanent exterior sideslope of the berm will be constructed at a grade of 2:1.

Slope Stability: The discharge evaluated the stability of the final grading plan under both static and seismic conditions. Analyses were performed to evaluate the stability of both the final refuse mass and the final cover design. The minimum static factor of safety was determined to be 1.85 for a failure surface that extends through the landfill waste and toes out at the slope base. This factor of safety is above the generally accepted minimum value of 1.5.

Under seismic conditions, the minimum factory of safety was determined to be 1.28 based on a maximum credible earthquake on the San Andreas Fault equivalent to the Great San Francisco Earthquake of 1906 (Richter Magnitude 8.25). Deformations associated with such an earthquake event were determined to be up to 9 inches. This amount of deformation is acceptable given that the resulting damage would be repairable. Furthermore, the predicted deformation of 9 inches is based on the existing high leachate levels in the waste. Given that installing additional leachate extraction wells will lower the leachate levels, the long-term seismic stability of the landfill will increase.

Final Cover Design: The final cover will consist of the following components from bottom to top: (1) a 2-foot minimum thick foundation layer over any waste, (2) 1-foot thick low permeability layer, hydraulic conductivity to be less than or equal to $1x10^{-6}$ cm/sec, (3) a 1-foot thick minimum vegetative layer.

Drainage: The completed landfill will be constructed with permanent concrete lined drainage channels to divert run-on and run-off without causing erosion damage. Stormwater sheet-flow from the landfill slopes will be collected in lined drainage swales on the 15-foot wide side slope benches, which will be sloped at 2 percent. A final landfill surface will have a minimum grade of 3 percent to promote runoff. The dischargers will construct perimeter, bench and roadside ditches, and overside drains to collect and channel stormwater to the stormwater sedimentation pond.

Leachate Control: The dischargers propose to control leachate migration from the landfill by installing additional leachate extraction wells, constructing two additional leachate storage ponds and disposing of the leachate by constructing a hillside spray evaporation system. This Order will need to be amended prior to construction of the additional

leachate ponds and by constructing a hillside spray evaporation system. In the interim, leachate disposal shall be by off-site hauling to a wastewater treatment plant.

GEOLOGY

12. The site is located in the Coast Ranges geological province approximately one-mile east of the San Andreas Fault Zone and 1.5 miles east of the 1906 fault-rupture. An evaluation of the site was conducted as part of the 1992 Solid Waste Assessment Test (SWAT). Work included geologic mapping, an evaluation of historical monitoring wells, drilling 26 new exploratory borings, converting 24 borings to new wells or piezometers and hydraulic testing of nine of the wells. The findings of the SWAT report and more recent investigations are summarized in a Regional Board October 1995 staff report (RWQCB, 1995).

13. The hydrogeology of the site was primarily characterized during the SWAT in 1992 and the Corrective Action Feasibility Study (EFW, 1997) with additional data collected during subsequent quarterly monitoring events. Three hydrogeologic units have been defined at the site as follows: (1) Bedrock, (2) Alluvium, and (3) Man-made deposits (i.e., artificial fill and refuse).

    The bedrock consists of interbedded sandstone and shale of the Franciscan Complex. The bedrock is fractured with the degree of fracturing ranging from crushed to slightly fractured. The permeability of the intact bedrock is very low and groundwater flow in the bedrock occurs almost entirely in the fractures. Bedrock hydraulic conductivity values range between $2x10^{-2}$ centimeters/second (cm/s) to $1x10^{-9}$ cm/s with a median of $1.1x10^{-5}$ cm/s. This is based on a combined total of 27 separate hydraulic tests from 10 packer tests and 17 slug tests.

    The alluvium at the site is up to 40-feet thick and consists of interbeded clay, sand and gravel that have been eroded from the bedrock slopes. Hydraulic conductivity values range from $1.1x10^{-2}$ to $2.3x10^{-6}$ cm/s with a median of $2.4x10^{-3}$ cm/s. This is based on a combined total of 9 separate hydraulic tests from 5 packer tests and 4 slug tests.

    The primary man-made deposit at the site is the landfill refuse. The refuse is up to about 150 feet in thickness and fills the former side-canyon of the main Tomasini Creek.

SURFACE WATER AND GROUNDWATER

14. Surface Water

Surface water is monitored at four locations at the landfill identified as SW-1, 2,3, and 4 (See Figure 2). Most surface water from the site flows into a stormwater sedimentation basin that discharges to Tomasini Creek. The remaining stormwater discharges directly into Tomasini Creek. Comparison of Tomasini Creek water quality data from upstream and downstream of the landfill shows higher levels of inorganic constituents in the downstream station (e.g. total dissolved solids, alkalinity, chloride, and sulfate), however, at levels that do not impact beneficial uses.

With one exception, there have been no significant changes in surface monitoring results since Board staff's 1995 evaluation, see table below. The exception is the detection of low levels of ammonia in Tomasini Creek for the first time during the summer of 1997. Ammonia was detected in Tomasini Creek, immediately downstream from the landfill, at concentrations of less than 1 mg/l (total ammonia). While the ammonia levels are below aquatic standards, the initial detection of ammonia in surface water provides further justification for constructing the final cap and expanding the leachate extraction system in a timely manner.

15. Groundwater

Quarterly groundwater monitoring at WMSL began in 1986. The first detailed groundwater monitoring investigation was conducted between 1991-1992 and reported in the Solid Waste Assessment Test Report (Einarson, 1992). More recent investigations have included the Evaluation Monitoring Program Report (EFW, 1996) which characterized the extent of groundwater pollution impacts from the landfill, and the Corrective Action Feasibility Study (EFW, 1997A) that included the construction of three inclined, bedrock monitoring wells and eight alluvial monitoring wells.

In June 1996 representative alluvial and bedrock monitoring wells were sampled for all Appendix II (40CFR, Part 258) constituents comprising a total of 215 hazardous inorganic and organic constituents including volatile organic compounds, semivolatile organic compounds, organophophorous pesticides, organochlorine pesticides, chlorinated herbicides and PCBs and metals. The only compounds detected were several previously identified volatile organic compounds. These compounds are 1,1 DCA at 6 micrograms per liter (ug/l), carbon disulfide at 10 ug/l, and chloroethane at 4 ug/l (EFW, 1996). Currently, WMSL has the following number of groundwater and leachate monitoring points: five alluvial groundwater monitoring wells; nine alluvial piezometers; seven bedrock monitoring wells; six bedrock piezometers; two piezometers in refuse; and four leachate wells. Groundwater sampling results are summarized on Table 1, below.

Table 1. Summary of Water Quality Sampling
West Marin Sanitary Landfill, Pt. Reyes Station, Marin County

Medium	Overall Quality	Total Dissolved Solids Levels	Volatile Organic Compounds	Comments
Surface Water	Elevated total dissolved solids Trace levels of ammonia	1997 Maximum TDS = 628 mg/l Background = approx. 225 mg/l	None detected	100% survival - 96-hour bioassay using rainbow trout
Alluvial Groundwater	Elevated levels of total dissolved solids, exceeds secondary drinking water standard VOCs detected slightly above drinking water standards.	1997 Maximum TDS = 1130 mg/l Background = approx. 260 mg/l TDS plume length is about 1000 feet long	1997 Maximum VOC levels and *[MCL]* benzene= 1.7 *[1]* vinyl chloride 1 *[0.5]* VOC Plume Length = 400 feet long	
Bedrock Groundwater	Slightly elevated total dissolved solids levels. Negligible impacts.	1997 Maximum TDS = 827 mg/l note: background level for TDS is variable in bedrock and ranges from about 200 to 600 mg/l.	One trace detection of VOCs below drinking water standard.	
Leachate	Elevated total dissolved solids, elevated total ammonia, trace volatile organic compounds, metals levels are all below Basin Plan Limits Table 4-9.	Leachate TDS ranges from 800-1600 mg/l	Trace volatile organic compounds below MCLs.	80% survival - 96-hour bioassay using stickleback and untreated leachate. Total ammonia levels range from 3-8 mg/l.

Total dissolved solids levels in downgradient alluvial groundwater monitoring wells have exceeded the State's Secondary Drinking Water Standard (for taste and odor) of 500 MG/L. In 1997, TDS levels of up to 1130 mg/l were detected in downgradient monitoring wells. The downgradient extent of alluvial groundwater pollution has been defined by the dischargers based on the three existing downgradient groundwater monitoring wells and summer 1996 field work that included collection of two Geoprobe grab groundwater samples and installation of a new alluvial groundwater monitoring well at the property boundary.

An expanded evaluation of the quality of the bedrock groundwater was conducted in 1996 by installing three inclined bedrock-monitoring wells near the downgradient edge of waste. One trace detection of VOCs below drinking water standard. The results indicate that the

bedrock appears to have slightly elevated total dissolved solids levels (Maximum TDS 827 mg/l) (EFW, 1997A). However, background levels of total dissolved solids in the bedrock are much more variable than in the alluvium or surface waters. TDS in bedrock groundwater ranges from about 200 to 600 mg/l. For purposes of corrective actions, remediation of the bedrock groundwater is unwarranted.

Overall, for purposes of corrective actions, the chemicals of concern are volatile organic compounds (detected in alluvial groundwater and leachate) and ammonia (detected in leachate and surface waters).

16. Well Survey:

A survey of wells conducted during the SWAT investigation identified 13 wells within a one-mile radius of the site. However, it is likely that other wells exist but were not registered with the State or County. Of the 13 wells, three were reported as domestic wells, three as industrial wells, four as unknown, two as municipal supply, and one as a test well. The two municipal supply wells are in the Lagunitas Creek watershed and thus are not west of the landfill. The closest known well is reported to be less than one mile downgradient west of the site; however, this is an abandoned well located outside of the Tomasini Creek watershed.

17. Beneficial Uses:

The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The basin plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

The beneficial uses of Tomasini Creek and Tomales Bay are as follows:

- Marine Habitat
- Fish Migration
- Agricultural Supply
- Water Contact Recreation
- Non-water Contact Recreation
- Shell Fish Harvesting
- Fish Spawning
- Wildlife Habitat

The alluvial groundwater basin in the Tomasini Creek watershed is not identified in the Basin Plan. However, the groundwaters meet the definition of a drinking water source as

defined in Regional Board Resolution No. 89-39. Therefore, the existing and potential beneficial uses of the Tomasini Creek alluvial groundwater basin includes:

- Municipal and Domestic Water Supply
- Agricultural Supply
- Industrial Service Water Supply
- Industrial Process Water Supply
- Fresh Water Replenishment

18. A tide gate is located at the entrance of Tomasini Creek to Tomales Bay thus restricting most fish migration. The tide gate prevents saltwater from migrating into Tomasini Creek, which is used for irrigating pastureland of the Giacomini Ranch. However, according the Department of Fish and Game, there could be a very small steelhead run that comes up Tomasini Creek and spawns between Highway 1 and WMSL during winter storms when the tide gate is open. In addition, the lower portion of Tomasini Creek may support an assemblage of estuarine fish when the tide gate is open.

    Currently, the National Park Service is considering a proposal to purchase the Giacomini Ranch and restore wetlands on it. A hydrological study has been conducted and envisions removing the tidal gate and restoring the estuarine portions of the creek and associated wetlands for purpose of restoring the wildlife habitat.

    No biologic assessment has been conducted on Tomasini Creek by the Department of Fish and Game. However, Tomasini Creek, a nearby tributary to Tomales Bay, does support a salmon run (Refer to State Water Resources Control Board Water Rights Decision WR 95-17). Tomales Bay is listed as an impaired Water Body in the 1997 Statewide Water Quality Assessment because of fish population decline, spawning impairment and coliform.

GROUNDWATER MONITORING SYSTEM

19. The dischargers currently measure water levels in 23 monitoring wells or piezometers to establish groundwater contours at the landfill. The landfill's current detection monitoring program consists of five alluvial monitoring wells (A-1, A-2, A-3, A-4 and W-2), and four bedrock monitoring wells (BR-1, B-2, BR-3 and BR-4) and the groundwater sump beneath the Class II Leachate Pond.

FINANCIAL ASSURANCE DOCUMENTATION

20. The dischargers are required pursuant to Title 14 and Title 27 of the California Code of Regulations, to submit to this Board evidence of an **Irrevocable Postclosure Fund** or provide other financial means acceptable to the Executive Officer, to ensure closure and post closure maintenance of the landfill.

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21. This action is categorically exempt from the provisions of CEQA pursuant to Section 15301, Title 14 of the California Code of Regulations, because the landfill is an existing facility.

NOTICE AND MEETING

22. The Board has notified the dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.

23. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the dischargers, their agents, successors and assigns shall meet the applicable provisions contained in Title 27, Division 2 of the California Code of regulations and Division 7 of the California Water Code and shall comply with the following:

A. PROHIBITIONS

1. The disposal of waste shall not create a condition of pollution or nuisance as defined in Section 13050 (1) and (m) of the California Water Code.

2. Wastes shall not be placed in or allowed to contact ponded water from any source whatsoever.

3. Only construction and demolition material may be disposed at the landfill after September 1, 1998.

4. Reuse of leachate for dust control is prohibited.

5. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharged into waters of the State or of the United States.

6. Leachate from wastes and ponded water containing leachate or in contact with waste shall not be discharged to waters of the State or of the United States.

7. Wastes not specified in this Order, and hazardous wastes, as defined in Sections 2521 of Title 27, **shall not** be deposited or stored at this site.

8. The dischargers **shall not** discharge wastes which have the potential to reduce or impair the integrity of the containment structures or which, if commingled with other wastes in the unit, could produce chemical reactions that create heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:

   a. require a higher level of containment than provided by the unit,
   b. are "restricted hazardous wastes" (as defined in Section 25122.7 of the Health and Safety Code, or
   c. impair the integrity of the containment structures.

9. Construction of the containment features at WMSL must be in compliance with this Order and CCR Title 27.

10. The dischargers, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State or of the United States at any place outside the waste management facility:

    a. Surface Waters

       Floating, suspended, or deposited macroscopic particulate matter or foam.

       Bottom deposits or aquatic growth.

       Adversely alter temperature, turbidity, or apparent color beyond natural background levels.

       Visible, floating, suspended or deposited oil or other products of petroleum origin.

       Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

    b. Groundwater

       The groundwater shall not be degraded as a result of the waste disposal operation.

B. SPECIFICATIONS

1. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer, California registered geologist or certified engineering geologist.

2. Water used during disposal operations shall be limited to dust control, fire suppression and earthfill moisture conditioning.

3. The site shall be protected from any washout or erosion of wastes from inundation which could occur as a result of a 100-year, 24-hour precipitation event, or as the result of flooding with a return frequency of 100 years.

4. Surface drainage from tributary areas and internal site drainage from surface and subsurface sources shall not contact or percolate through waste during disposal operations or during the postclosure life of the site. Drainage courses constructed over intermediate covered fill areas shall be maintained to prevent exposure of wastes. Drainage courses constructed over final capped wastes will be underlain with a minimum 5-foot thickness of compacted earthfill or a lined drainage course which offers equivalent protection.

5. The leachate monitoring and control system shall be maintained and operated to prevent the buildup of hydraulic head within the landfill waste to the extent practicable. This system shall be periodically inspected, and any accumulated fluid shall be removed to the maximum extent possible.

6. The dischargers shall ensure that the foundation of the site, the refuse fill, the structures which control leachate, surface drainage, erosion, and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

7. Hazardous wastes and infectious wastes shall not be disposed of at this landfill. Waste approved for disposal at this landfill must be discharged in accordance with all regulations and provisions of the California Integrated Waste Management Board, California Department of Toxic Substance Control, local health and land use agencies' requirements.

8. The final cap shall be designed and constructed in compliance with CCR Title 27 and this Order. The final closure plans shall be submitted to the Executive Officer for review and approval and shall include, but not be limited to, slope and seismic stability analyses, the construction specifications, and a construction quality assurance (QA/QC) plan. The final construction report shall include, but not be limited to, construction record drawings (as-built drawings) for the project, a QA/QC report with a written summary of the QA/QC program and all test results and analyses, and construction certification.

9. As portions of the landfill are closed, the exterior surfaces shall be graded to promote lateral runoff of precipitation and prevent ponding. The final cover for the landfill will have a minimum slope of three percent plus an allowance for subsidence. The final cover must also meet all other applicable requirements as described in this Order, Title 27, and 40 CFR Title 40, Section 258.60.

10. The dischargers shall operate the waste management facility so as to prevent a statistically significant difference to exist between water quality of the background water and water passing the point of compliance as provided in Section 20405, Division 2 of Title 27.

11. The concentrations of indicator parameters or waste constituents in waters passing through the point of compliance, as defined in Section 20390 of Division 2, Title 27, shall

not exceed the "Water Quality Protection Standard" (WQPS), of the Self-Monitoring and Reporting Program.

12. Pursuant to Section 20395 of the Division 2, Title 27, these Waste Discharge Requirements specify the constituents of concern to which the water quality protection standard of Section 20390 of Division 2 applies. Constituents of concern are the waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the landfill. For this landfill the constituents of concern include all parameters included in Subtitle D, Appendix I.

13. In the event of a release of a constituent of concern beyond the Point of Compliance, the site begins a Compliance Period (Sect. 20410). During the Compliance Period, the dischargers shall perform an Evaluation Monitoring Program and a Corrective Action Program.

14. The dischargers shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any Self-Monitoring Reporting Program issued by the Executive Officer.

15. Interim cover shall be maintained over all waste, at all times, except for the active face area of the disposal operations, or as provided for by the performance standards adopted by the California Integrated Waste Management Board.

16. Methane and other landfill gases shall be adequately vented, removed from the landfill units, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.

17. This Board considers the present or future property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of waste discharge or related operations during the operational and postclosure maintenance periods.

18. The dischargers shall provide a minimum of two surveyed permanent monuments near the landfill from which the vertical and horizontal position of wastes, containment structures, and monitoring facilities can be determined throughout the operational and post-closure maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer.

19. The Board shall be notified immediately of any slope failure occurring at the landfill. Any failure which potentially compromises the integrity of containment structures or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.

20. The dischargers shall notify the Board at least 30 days prior to beginning any intermediate or final closure activities. This notice shall include a statement that all closure activities

will conform to the most recently approved closure plan and that the plan provides for site closure in compliance with all applicable regulations.

21. The dischargers shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.

22. A copy of all of all technical reports and self-monitoring reports shall be transmitted to the Pt. Reyes Station Public Library and the Environmental Health Services, Civic center, San Rafael.

C. PROVISIONS

1. The dischargers shall comply with all Prohibitions, Specifications, and Provisions of this Order, immediately upon adoption of this Order or as provided below.

Task 1: Discontinue disposal of municipal solid waste. The dischargers shall submit a technical report acceptable to the Executive Officer that documents the discontinuation of municipal solid waste disposal at West Marin Sanitary Landfill effective September 1, 1998. Interim cover shall be placed over the entire site by September 15, 1998. This provision does not prohibit the use of the landfill as a solid waste transfer facility. Limited disposal of construction and demolition waste may continue provided that the dischargers demonstrate sufficient landfill capacity in a technical report acceptable to the Executive Officer. Any disposal of construction and demolition waste at WMSL, beyond September 1, 1998, shall require the approval of the Executive Officer. Such approval shall be contingent on the landfill demonstrating sufficient capacity for additional waste placement.

REPORT DUE DATE: September 15, 1998

Task 2: Short-term Leachate Disposal Plan. The dischargers shall submit a technical report containing a plan, acceptable to the Executive Officer, for off-site disposal of leachate at a permitted facility until a long-term program is established. Such a plan shall provide for maintaining a minimum of 3.5 feet of freeboard in the existing leachate pond at all times as well as for completely draining the pond by September 15th of each year.

REPORT DUE DATE: September 15, 1998

Task 3: Documenting Closure Related Activities. The dischargers shall submit technical reports, acceptable to the Executive Officer, that document completion of the following closure related activities as outlined in Finding No. 11.

REPORT DUE DATES:

July 15, 1999 - Completion of site grading and construction of earthen berm.

August 30, 1999 - Completion of construction of final cover and drainage control structures.

September 30, 1999 – Completion of installation of 4 new leachate extraction wells and 5 new leachate piezometers. The leachate piezometers shall be installed to measure the effectiveness of the leachate extraction wells.

2. The dischargers shall submit, within 90 days after the closure of any portion of the landfill, a closure certification report which documents that the area has been closed according to the requirements of this Order and Title 27. The dischargers shall certify under penalty of perjury that all closure activities were performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations.

3. The dischargers shall comply with the requirements of the attached Self-Monitoring and Reporting Program.

4. The dischargers shall comply with the requirements of Board Order No. 93-113 which establishes general waste discharge requirements for all municipal solid waste landfills regulated by this Board.

5. The dischargers shall remove and relocate any wastes which are discharged after the date of adoption of this Order in violation of these requirements.

6. The dischargers shall immediately notify the Board of any event which in any way might compromise the integrity of the waste, leachate, or gas containment facilities or precipitation and drainage control structures.

7. The dischargers shall maintain all devices or designated features installed in accordance with this Order such that they continue to operate as intended without interruption except as a result of failures which could not have been reasonably foreseen or prevented by the dischargers.

8. The dischargers shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.

9. The dischargers shall permit the Board or its authorized representative, upon presentation of credentials:

    a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.

    b. Access to copy any records required to be kept under the terms and conditions of this Order.

    c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order or by any other California state agency.

    d. Sampling of any discharge or groundwater governed by this Order.

10. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.

11. This Order is subject to Board review and updating, as necessary, to comply with changing state or federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.

12. Board Order No. 96-129 is hereby rescinded.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 15, 1998.

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

Attachments: Figure 1. Location Map
Figure 2. Site Map

References:

Einarson Geosciences, 1992. "Solid Waste Assessment Test Report for West Marin Sanitary Landfill, Pt. Reyes Station, Marin County."

Einarson, Fowler and Watson, 1996. "Evaluation Monitoring Program, West Marin Sanitary Landfill, Pt. Reyes Station, Marin County."

Einarson, Fowler and Watson, 1997A. "Corrective Action Feasibility Study for West Marin Sanitary Landfill, Pt. Reyes Station, Marin County."

Einarson, Fowler and Watson, 1997B. "Final Closure Plan for West Marin Sanitary Landfill, Pt. Reyes Station, Marin County."

Regional Water Quality Control Board, San Francisco Bay Region, 1995. Staff Report: "Evaluations and Recommendations, West Marin Sanitary Landfill, Pt. Reyes Station, Marin County."

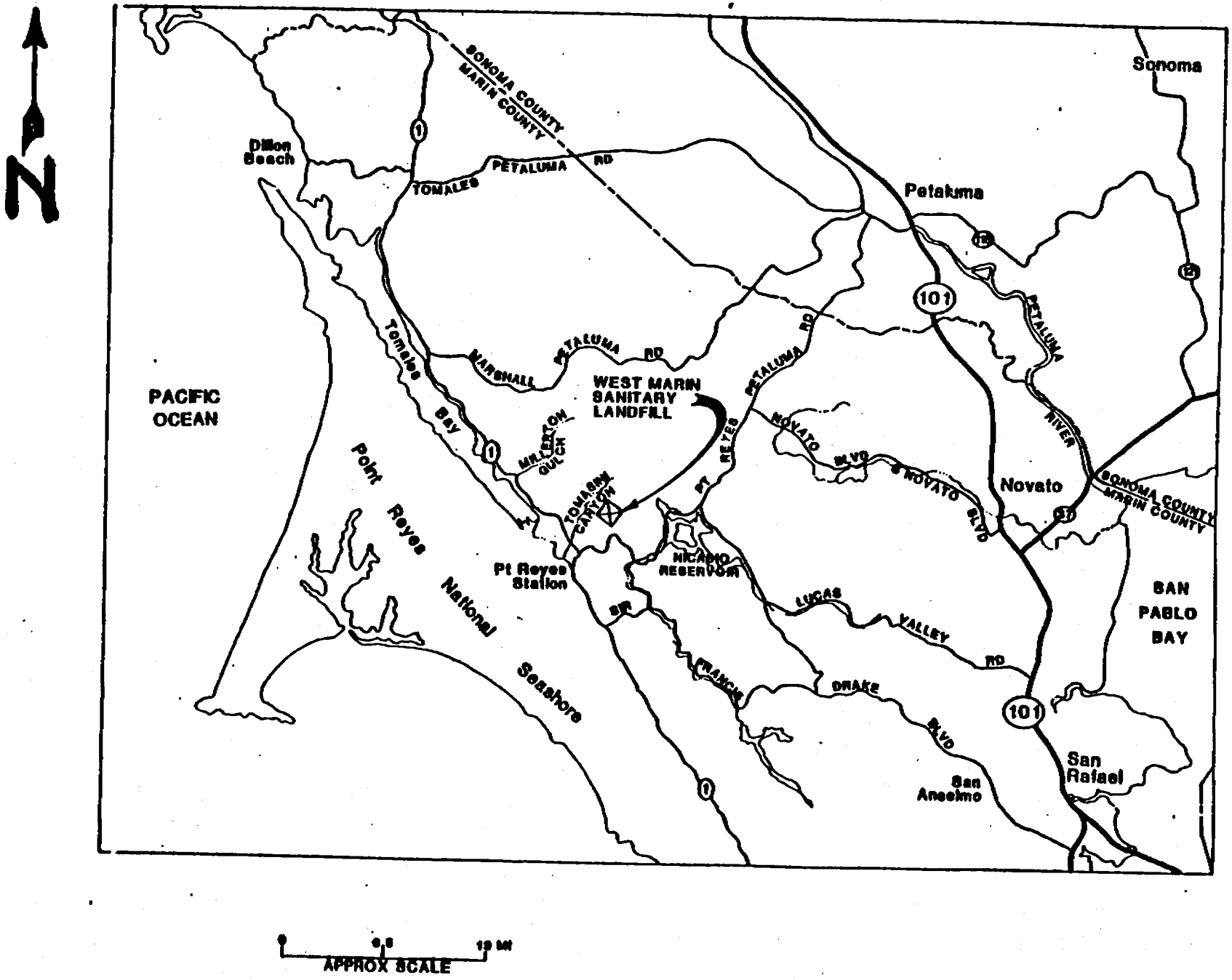


Figure 1. Location Map, West Marin Sanitary Landfill , Point Reyes Station, Marin County

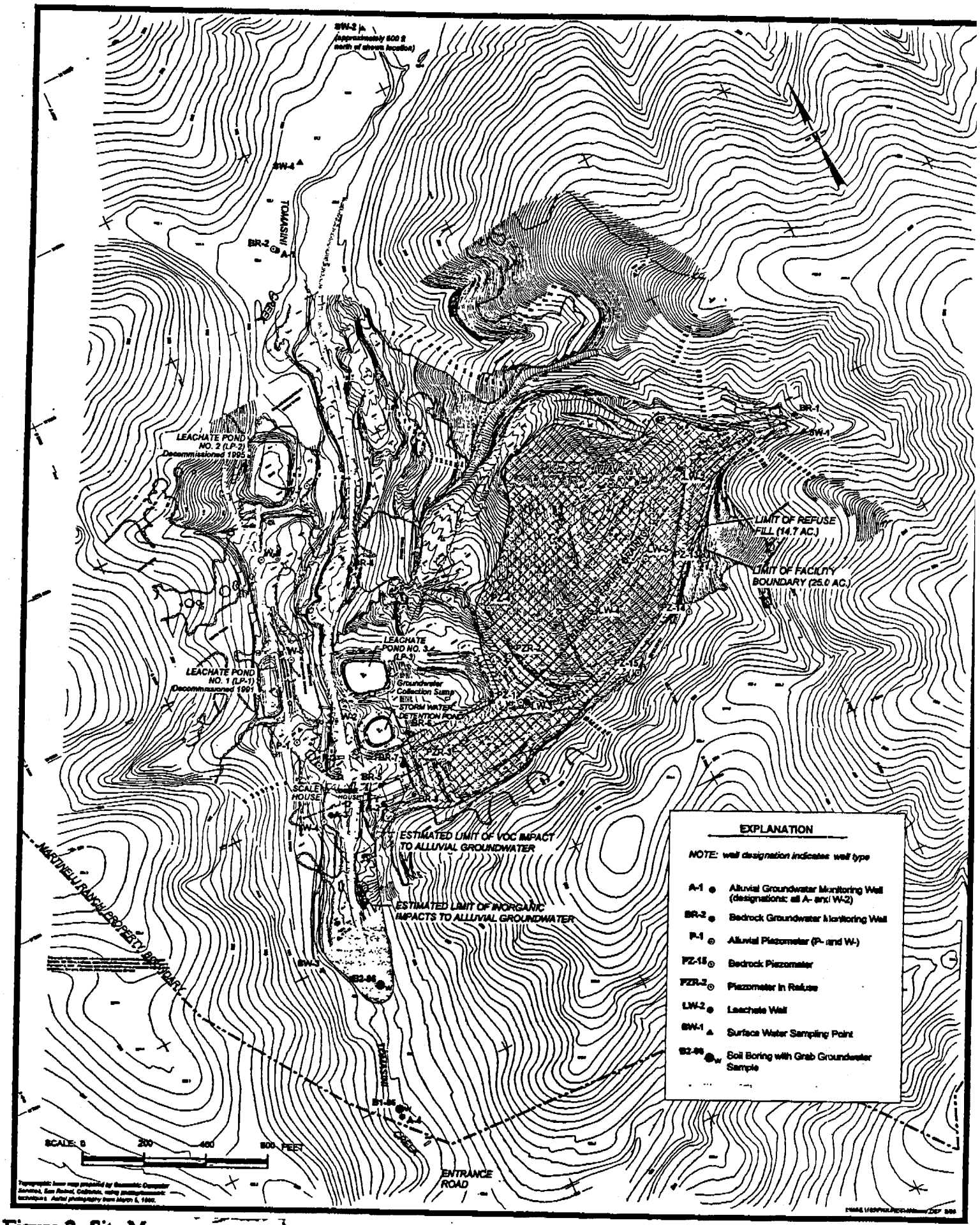


Figure 2. Site Map

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING AND REPORTING PROGRAM

FOR

WEST MARIN SANITARY LANDFILL
CLASS III SOLID WASTE DISPOSAL SITE

MARIN COUNTY

ORDER NO. 98-074

CONSISTS OF

PART

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Board's Resolution No. 73-16. This Discharge Monitoring Program is issued in accordance with Title 27, Division 2.

The principal purposes of a self-monitoring and reporting program are: (1) to document compliance with Waste Discharge Requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste dischargers in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the dischargers in complying with the requirements of Title 27, Division 2.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA or Standard Methods and in accordance with a sampling and analysis plan approved by the Board.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. Receiving waters refers to any surface water which actually or potentially receives surface or groundwater which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill areas, and the surface runoff from the site are considered receiving waters.

3. Standard observations, at the time of monitoring or in the event of unanticipated discharge, refer to:

   a. Receiving Waters

1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
2) Discoloration and turbidity: description of color, source, and size of affected area.
3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
4) Evidence of beneficial use: presence of water associated wildlife.
5) Flow rate.
6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Perimeter of the waste management unit.

1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
3) Evidence of erosion and/or daylighted waste.

c. The waste management unit.

1) Evidence of ponded water at any point on the waste management facility.
2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
3) Evidence of erosion and/or daylighted waste.
4) Standard Analysis (SA) and measurements include:
   a. pH (EPA Method 9040)
   b. Electrical Conductivity (EC) (EPA Method 9050)
   c. Total Dissolved Solids (TDS) (EPA Method 160.1)
   e. Chloride (EPA Method 300)
   f. Total Organic Carbon
   g. Nitrate Nitrogen (EPA Method 300)
   h. Total Kjeldahl Nitrogen
   i. Water elevation in feet above mean sea level
   j. Settleable Solids ml/l/hr
   k. Sulfate (EPA Method 300)
   l. 47 VOCs (EPA Method 8260)
   m. Ammonia

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The dischargers are required to perform sampling, analyses, and observations in the following media:

1. Groundwater per Title 27, Section 20415(b)
2. Surface water per Title 27, Section 20415 (c)

and per the general requirements specified in Section 20415(e) of Title 27, Division 2.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the dischargers or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.
4. Complete procedure used, including method of preserving the sample, and the identit and volumes of reagents used.
5. Calculation of results.
6. Results of analyses, and laboratory reporting limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. The Annual Self-Monitoring and Reporting Program report shall be filed by Oct 30. The annual report can be combined with the discharger's summer/fall semia report. The semi-annual self monitoring reports shall be filed on April 30th and October 30th. Quarterly reports shall be filed on January 30th, April 30th, July and October 30th. Monthly reports shall be filed by the 10th day of the month following the month of interest. The reporting period: means the duration sep submittal of a monitoring report from the time the next iteration of that repor scheduled for submittal.

The semi-annual reports shall be comprised of at least the following:

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each submittal. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the dischargers have previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

b. Each semi-annual monitoring report shall include a compliance evaluation summary. The summary shall contain:

1) Groundwater flow and direction: A description and graphic presentation of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.

2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature, conductivity, and turbidity testing, well recovery time, and method of disposing of the purge water.

3) A written discussion of the groundwater analyses indicating any change in the quality of the groundwater.

4) Type of pump used, pump placement for sampling, a detailed description of th sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containe and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.

c. A comprehensive discussion of the compliance record, and the corrective actions t

or planned which may be needed to bring the dischargers into full compliance with the waste discharge requirements.

d. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

e. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.

1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA Methods or Standard Methods are used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.

2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical reporting limits; the recovery rates; an explanation for any recovery rate that is less than 80% or greater than 120%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

f. An evaluation of the effectiveness of the leachate detection/collection , monitoring, control, and removal facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal/treatment methods utilized.

g. An evaluation of the effectiveness of the groundwater underdrain detection, monitoring, control, and removal facilities, which includes an evaluation of fluid buildup within this system, a summary of fluid volumes removed, and a discussion of the disposal/treatment methods utilized.

h. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.

i. The quantity and types of wastes disposed of during each quarter of the reporting period, and the locations of the disposal operations. Locations of waste placement shall be depicted on a map showing the area, if any, in which filling has been completed during the previous calendar year.

j. A summary statement describing the findings from the discharger's: periodic load checking/screening program.

k. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a $3^1/_2$" computer data disk, MS-DOS ASCII format, tabulating the year's data. Only tabular summaries are required in the semi-annual report.

1. The Annual Monitoring Report shall be submitted to the Board covering the previous monitoring year. The report shall contain:

1). A Graphical Presentation of Analytical Data [Section 2550.7(e)(14) of Article 5]. For each Monitoring Point, submit in graphical format the laboratory analytical data for all samples taken. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point, at a scale appropriate to show trends or variations in water quality. All graphs for a given constituent shall be plotted at the same scale to facilitate visual comparison of monitoring data. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the dischargers to carry out a preliminary investigation [Section 2510(d)(2)], the results of which will determine whether or not a release is indicated;

2). A tabular summary of all the monitoring data obtained during the previous five years;

3). A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the dischargers into full compliance with the waste discharge requirements;

4). A map showing the area, if any, in which fill has been completed during the previous calendar year; and

5). A written summary of the groundwater analysis from the previous year indicati any change in the quality of the groundwater; and,

6). An evaluation of the effectiveness of the leachate monitoring/control facilities

2. CONTINGENCY REPORTING

a. A report shall be made by telephone of any seepage from the disposal area imm after it is discovered. A written report shall be filed with the Board within five thereafter. This report shall contain the following information:

1) a map showing the location(s) of discharge;

2) approximate flow rate;
3) nature of effects; i.e. all pertinent observations and analyses; and
4) corrective measures underway or proposed.

b. A report shall be made in writing to the Board within seven days of determining that a statistically significant difference occurred between a downgradient sample and a WQPS. Notification shall indicate what WQPS(s) has/have been exceeded. The dischargers shall immediately resample at the compliance point where this difference has been found and re-analyze.

c. A report shall be made by telephone of any requirement violation(s) immediately after it is discovered. A written report shall also be filed within seven days that includes a discussion of the requirement violation(s), and actions taken or planned for correcting the violation(s).

d. If resampling and analysis confirms the earlier finding of a statistically significant difference between monitoring results and WQPS(s) the dischargers must submit to the Board, an amended Report of Waste Discharge as specified in Section 20420(k)(5) for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of Section 20425 of Title 27, Division 2.

e. Within 180 days of determining statistically significant evidence of a release, submit to the Board an engineering feasibility study for a Corrective Action Program (CAP) necessary to meet the requirements of Section 20430. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

3. WELL LOGS
A boring log and a monitoring well construction log shall be submitted for each sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

4. QUARTERLY STATUS REPORTS ON CLOSURE ACTIVITIES: Submit quarterly letter reports that document the work completed during the previous quarter and planned for upcoming quarter directed at landfill closure.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. WASTE MONITORING - **Observe quarterly , report quarterly**

1. Record the total volume and weight of waste in cubic yards and tons disposed of at the site during each month showing locations and dimensions on a sketch or map.
3. Record location and aerial extent of disposal of waste, with map locations .
4. Remaining landfill capacity/waste volume in place ;

B. FACILITIES MONITORING - **Observe quarterly, report annually**

The dischargers shall inspect all facilities to ensure proper and safe operation. The facilities to be monitored shall include, but not be limited to:

1. Leachate Collection and Removal Systems;
2. Surface water retention basins;
3. Interior landfill drainage/berm system;
4. Leak detection system (where applicable);
5. Leachate management facilities and secondary containment; and
6. All other surface water runoff containment structures.

C. PHOTODOCUMENTATION OF FACILITIES MONITORING - **Observe quarterly and report annually**

The dischargers shall provide photodocumentation of conditions at locations that include, but are not limited to, the landfill facilities listed in Part B, 1.B. above. Locations from which photographs are taken should be permanent stations such that they can be used for successive reports.

D. ON-SITE OBSERVATIONS

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 thru V-`n'	Located on the waste disposal area as deli-neated by a 500 foot grid network.	Standard observations for the waste management unit.	Weekly observations, Report semi-annually.
P-1 thru P-`n' (per-imeter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	Weekly observation, Report semi-annually.

A map showing visual and perimeter compliance points (V and P stations) shall be submitted by the dischargers along with the quarterly monitoring report.

E. SEEPAGE MONITORING

Seepage monitoring stations include stations S-1 thru S-'n' and any point at which seepage is found occurring from the disposal area. The landfill perimeter shall be monitored according to the following; with the **results reported quarterly**.

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
S-1 thru S-'n'	At any point(s) at which seepage is found occurring from the disposal area.	Standard observation for the perimeter and standard analysis other than "i" (perform analysis once per seep).	Daily until remedial action is taken and seepage ceases.

F. SURFACE WATER AND GROUNDWATER MONITORING Shall be as shown in T
1 below and on Figure 2. Surface water shall also be sampled according to the landfi
NPDES requirements. WMSL submitted a proposed detection monitoring dated Au
11, 1994, the report is approved with the modifications shown on the Table 1 below

Table 1. Schedule for Surface Water, Groundwater and Leachate Monitoring West Marin Sanitary Landfill, Point Reyes Station, Marin County

Monitoring Station	Field Measurements[1]	Inorganic Monitoring Parameters[2,3]	Volatile Organic Compounds (Appendix I VOCs by EPA Method 8260)
Alluvial Background Well: A-1	Q	Q	S
Alluvial Downgradient Wells: A-2, A-3, W-2 and A-4	Q	Q	S
Bedrock Background Well: BR-2	Q	Q	S
Bedrock Downgradient Wells: BR-3, 4, 6, 7, 8	Q	Q	S
Bedrock Monitoring Point at groundwater sump below leachate pond	Q	NR	NR
Groundwater and Leachate Piezometers			
Alluvium: P-1, P-2, W-4, W-5, W-7	Q (Depth to groundwater or leachate)		
Bedrock: PZ-1, PZ-4, PZ-13, PZ-14, PZ-15, and BR-2			NR
Refuse: PZR-2, PZR-3, LW-2, LW-3, LP1-n[4]			
Surface Water Background Stations SW-1, SW- 2 and SW-4	Q (in addition analyze for BOD and COD)	Q	S
Surface Water Downstream Station SW-3	Q (in addition analyze for BOD and COD)	Q	S
Leachate Pond Water	Q	Q	Q
Stormwater Sedimentaion Pond	Q		

Q - Quarterly, S - Semiannual, NR - Not Required,
[1]Field Measurements are: depth to water turbidity, pH, specific conductance, and temperature.
[2]Inorganic Monitoring Parameters are: total dissolved solids, chloride, sulfate, and nitrate as nitrogen.
[3]Sampling may be reduced to semiannual once the report for Task 6 has been approved by the Executive Officer.
[4]LP1-n are the minimum of 5 new leachate piezometers to be installed to monitor the effectiveness of the additio
extraction wells.

The monitoring wells listed in Table 1 are to be sampled and the data submitted for all Subtitle D Appendix II constituents by October 30, 2001, October 30, 2006...., and every five years thereafter.

H. PIEZOMETER MONITORING

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
PZ-1 thru PZ-`n'	Piezometric monitoring point levels to the nearest 1/100 ft	Piezometric	Once per quarter report semiannually

I. QA/QC SAMPLE MONITORING

The dischargers shall collect duplicate, field blank and equipment blank groundwater samples for each semiannual monitoring event. The duplicate sample shall be monitored for: pH, chloride, TDS, nitrate, sulfate, and VOCs; the field and equipment blank for VOCs by EPA Method 8260; and, the trip blank for VOCs by EPA Method 8240 or 8260.

J. LEACHATE MONITORING

The following leachate monitoring locations are included in the leachate monitoring program:

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
L-1 thru L-'n'	Leachate control facilities including sumps and wells to be installed	Volume of leachate built up at base of landfill, and volume removed	See below

2. Leachate shall be analyzed for chemical constituents according to Table 1 and the results reported semi-annually.

3. For the Leachate Pond, dischargers shall record on a monthly basis the volume of leachate in the pond, and the flow rate into the pond.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring and Reporting Program:

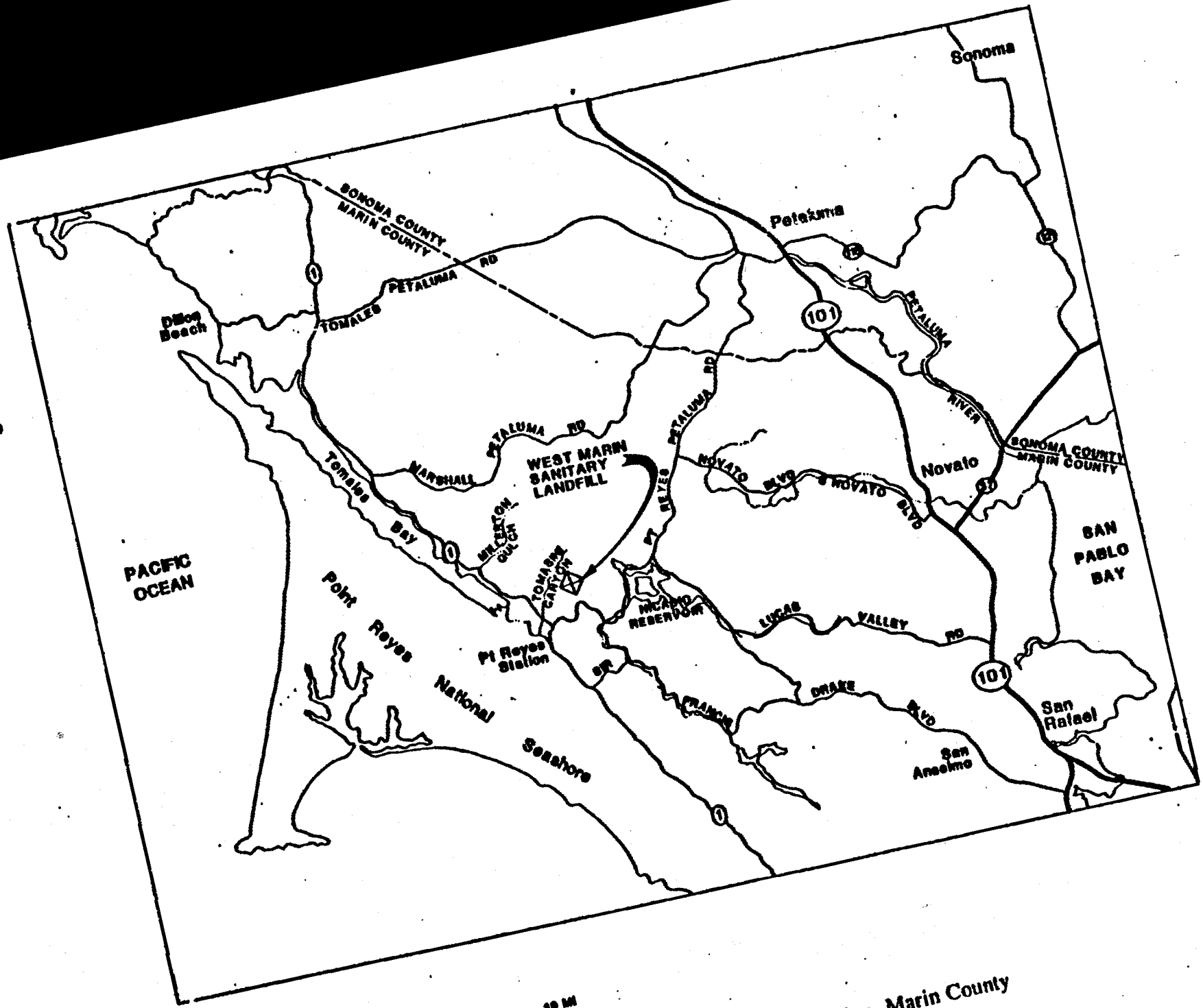
1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document Compliance with waste discharge requirements established in this Board's Order No. 98-074.

2. Is effective on the date shown below.

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.

Date Ordered: July 15, 1998

Loretta K. Barsamian
Executive Officer



Station, Marin County

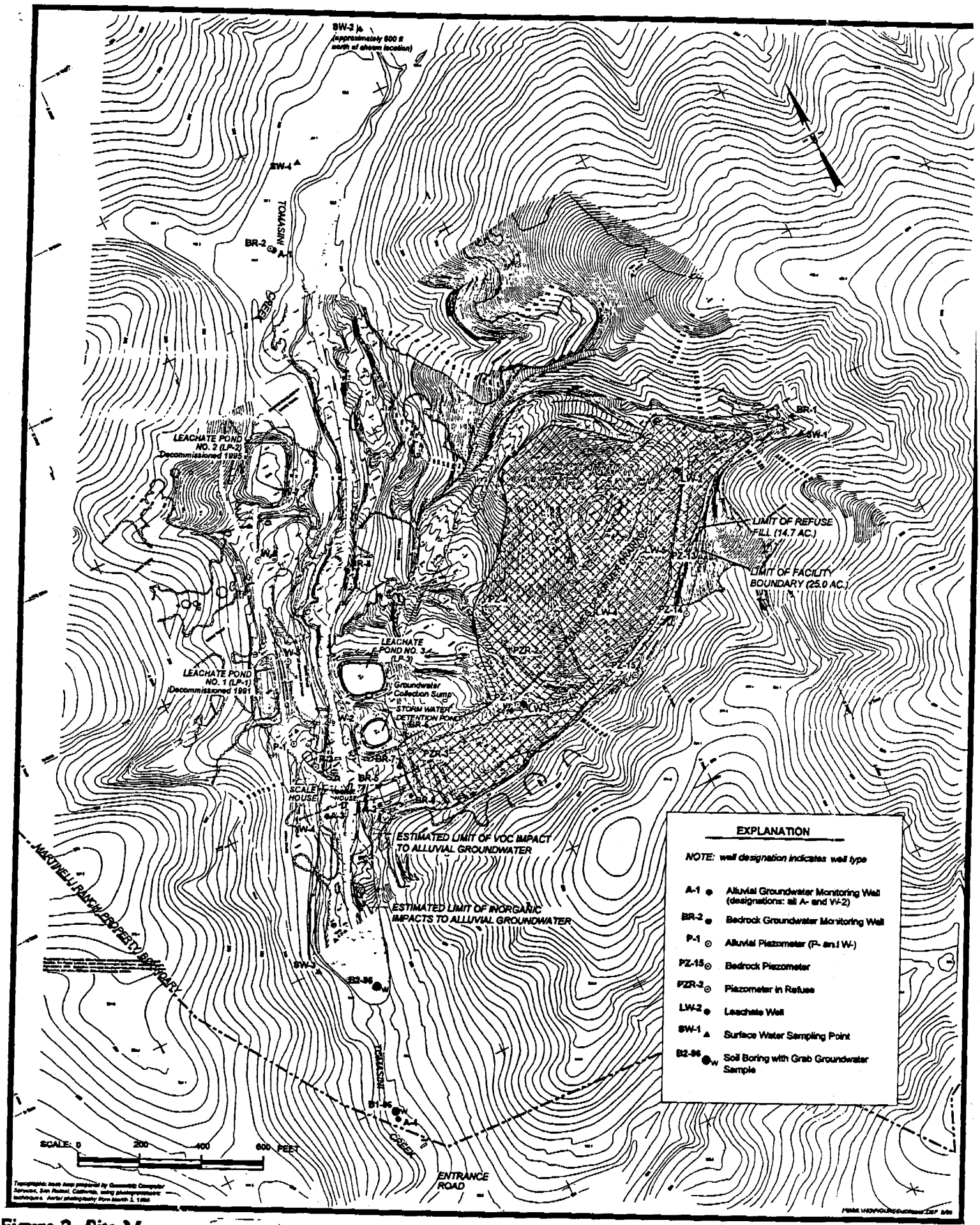


Figure 2. Site Map